

STATE OF TENNESSEE **DEPARTMENT OF HEALTH ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street Nashville, TN 37243-1534 Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike Knoxville, TN 37921

K00002926 Lab ID:

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

alytical Supervisor

K00002926001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected:

09/29/2009 12:00

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO:

Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.78

pH Units

uMHO

Chlorine, residual:

Conductivity:

58

Temperature: Dissolved Oxygen: 9.38

18.44

mg/L

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	270	μg/L	2.9	10	A Wilson	10/5/2009

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	190	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	26	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	[^] 1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.26J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	2.2	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.35J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	36	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.2	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	·10/1/2009
Thallium	0.11J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	6.3	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926001

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 12.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: EMORY012.1RO

Date/Time Collected:

09/29/2009 12:00

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

рн:	7.78	ph Units
Chlorine, residua	al:	
Conductivity:	58	uMHO
Temperature:	18.44	

Dissolved Oxygen: 9.38

Field Determinations

mg/L

Other: Flow:

CFS

TEST: Mercury	ME	ΓHOD: EPA 24	5.1			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	μg/L	0.029	0.2	A Bass	10/5/2009
	0.040	μ9/∟	0.029	0.2	A Dass	10/3/.

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

K00002926002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 09:40 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code: Send Report To: TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

54

uMHO

mg/L

Temperature:

19.49

Dissolved Oxygen: 8.53 Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	400	μg/L	2.9	10	A Wilson	10/5/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8		4	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	340	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	29	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.28J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	0.89J	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.43J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	31	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	, 0.044J	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.083J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	9.7	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926002

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

09/29/2009 09:40

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

Send Report To:

TDEC-WPC 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

54

uMHO

Temperature:

19.49

Dissolved Oxygen: 8.53

mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926003

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

2FD

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 09:40

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

54

uMHO

mg/L

Temperature:

19.49 Dissolved Oxygen: 8.53

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP	METHOD: EPA 200.7					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Iron	480	μg/L	2.9	10	A Wilson	10/5/2009

TEST: ICP-MS	ME	ΓHOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	380	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	Ū	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	35	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.30J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	0.98J	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.47J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	35	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.5	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.069J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	5.9	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2FD

Station No.:

EMORY002.1RO

Date/Time Collected:

09/29/2009 09:40 Geoff Klein

Sampler's Name: County:

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

Dissolved Oxygen: 8.53

pH:

7.59

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature: 54

19.49

mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926004

Project Name:

TVA-Ash Spill

Sample Description: Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

2FB

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 09:40 Geoff Klein

County:

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2					
ANALYTE	RESULT	RESULT UNITS MDL MQL				DATE
Digestion Metals	09/30/2009			·	M Pattanayek	9/30/2009

TEST: ICP	: ICP METHOD: EPA 200.7						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DATE						
Iron	U	μg/L	2.9	10	A Wilson	10/5/2009	

TEST: ICP-MS	MET	HOD: EPA 20	0.8					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Aluminum	· U	μg/L	6.4	10	M Pattanayek	10/1/2009		
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009		
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009		
Barium	U	μ g/L	2.5	5	M Pattanayek	10/1/2009		
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009		
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009		
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009		
Cobalt	U	μg/L	0.04	1	M Pattanayek	10/1/2009		
Copper	U	μg/L	0.38	1	M Pattanayek	10/1/2009		
Lead	U	μg/L	0.10	1	M Pattanayek	10/1/2009		
Manganese	U	μg/L	0.42	1	M Pattanayek	10/1/2009		
Nickel	U	μg/L	0.25	1	M Pattanayek	10/1/2009		
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009		
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009		
Thallium	0.034J	μg/L	0.03	1	M Pattanayek	10/1/2009		
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009		
Zinc	9.4	μg/L	1.9	5	M Pattanayek	10/1/2009		

K00002926004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Project Site No.:

Sampler Project Name: TVA Ash Spill

2FB

Station No.:

Date/Time Collected:

EMORY002.1RO 09/29/2009 09:40

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Agency Invoiced:

Knoxville TDEC-WPC

Billing Code: Send Report To:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

TEST: Mercury

E McCrary

			_
METHOD:	EPA	245.1	

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit MQL - Method Quantitation Limit

U - Undetected

Field Determinations

:Ha

Chlorine, residual: Conductivity: Temperature: Dissolved Oxygen:

Other:

Flow:

K00002926005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/29/2009 10:17

Sampler's Name: County:

Geoff Klein ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency: Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

Received By:

E McCrary

13:21

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS.	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009	

Field Determinations

Dissolved Oxygen: 8.59

Chlorine, residual:

Conductivity:

Temperature:

7.45

55

19.36

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: ICP METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Iron	470	μg/L	2.9	10	A Wilson	10/5/2009	

TEST: ICP-MS	ME	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	470	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U ·	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	31	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.36J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	2.2	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.58J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	38	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.056J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	2.2J	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926005

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.9 at underwater weir

Sampler Project Name: TVA Ash Spill

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/29/2009 10:17

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.45

pH Units

uMHO

Chlorine, residual:

Conductivity:

55 19.36

Temperature: Dissolved Oxygen: 8.59

mg/L

Other:

Flow:

CFS

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926006

Project Name:

TVA-Ash Spill Emory River mile 1.7

Sample Description: Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: Date/Time Collected: EMORY001.7RO 09/29/2009 10:30

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73 Water

EFO: Sampling Agency: **Billing Code:**

Knoxville TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

7.40 pH:

Chlorine, residual:

55

pH Units

Conductivity:

Temperature:

19.34

uMHO mg/L

Dissolved Oxygen: 9.22 Other:

Flow:

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DATE					DATE	
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009	

TEST: ICP METHOD: EPA 200.7								
ANALYTE		RESULT UNITS MDL MQL ANALYZED BY: DATE						
Iron		520	μg/L	2.9	10	A Wilson	10/5/2009	

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	560	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	0.33J	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	2.0J	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	37	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	Ū	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.46J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	1.8	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.82J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	45	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.083J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	4.6J	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926006

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 1.7

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY001.7RO

Date/Time Collected:

09/29/2009 10:30

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.40

pH Units

Chlorine, residual:

Conductivity:

55

uMHO

Temperature:

19:34

Dissolved Oxygen: 9.22

mg/L

Other:

Flow:

CFS

TEST: Mercury METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926007

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

TVA A-I- O-II

Project Site No.:

Station No.:

4

EMORY000.1RO

Date/Time Collected:

09/29/2009 10:45

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.31

pH Units

uMHQ

mg/L

Chlorine, residual:

Conductivity:

63

Temperature: 19.61 **Dissolved Oxygen:** 8.61

Other:

Flow:

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP METHOD: EPA 200.7						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DA					
Iron	590	μg/L	2.9	10	A Wilson	10/5/2009

TEST: ICP-MS	MET	THOD: EPA 20	0.8			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	480	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	1.5J	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	34	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.36J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	3.0	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.75J	μg/L	0.10	1	M Patťanayek	10/1/2009
Manganese	36	μg/L	0.42	1 .	M Pattanayek	10/1/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.063J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	5.8	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926007

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 0.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 10:45

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: **Billing Code:** Send Report To:

TDEC-WPC 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.31

pH Units

Chlorine, residual:

Conductivity:

63

uMHO

Temperature: Dissolved Oxygen: 8.61

19.61

mg/L

Other:

Flow:

CFS

TEST: Mercury	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.07J	μg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.:

5

CLINC002.3RO

Date/Time Collected: Sampler's Name:

09/29/2009 11:00 Geoff Klein

County:

Sample Matrix:

ROANE - 73

EFO:

Water Knoxville

Sampling Agency: Billing Code: Send Report To:

TDEC-WPC 327.34-20 **TDEC-WPC**

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

Dissolved Oxygen: 7.89

pH:

7.34

pH Units

uMHO

Chlorine, residual:

Conductivity: Temperature:

141

19.20

mg/L

Other:

Flow:

TEST: Digestion Metals METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP	METHOD: EPA 200.7						
ANALYTE	RESULT UNITS MDL MQL ANALYZED BY: DATE						
Iron	400	μg/L	2.9	10	A Wilson	10/5/2009	

TEST: ICP-MS	ME.	ΓHOD: EPA 20	0.8		·	
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	360	μg/L	6.4	1,0	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	34	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.31J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	1.4	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.51J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	43	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.4	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.045J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	3.6J	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926008

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 2.3

Sampler Project Name: TVA Ash Spill

Project Site No.:

5

Station No.:

CLINC002.3RO

Date/Time Collected: Sampler's Name:

09/29/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced: TDEC-WPC

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

11:00

Received By:

E McCrary

TEST: Mercury	METHOD: EPA 245.1						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Mercury	U	μg/L	0.029	0.2	A Bass	10/5/2009	

Field Determinations

Dissolved Oxygen: 7.89

Chlorine, residual:

Conductivity:

Temperature:

7.34

141

19.20

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA discharge point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.: Date/Time Collected: KingAshOutF2

Sampler's Name:

09/29/2009 11:15 Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC 327.34-20

Billing Code: Send Report To: Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.32

pH Units

Chlorine, residual:

Conductivity:

69

uMHO

Temperature:

21.43 Dissolved Oxygen: 8.84

mg/L

Other:

Flow:

TEST: Digestion Metals						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009

TEST: ICP	MET					
ANALYTE	RESULT	RESULT UNITS MDL	MQL	ANALYZED BY:	DATE	
Iron	520	μg/L	2.9	10	A Wilson	10/5/2009

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	600	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	3.4J	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	42	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.48J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	4.6	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.81J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	57	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.6	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	1.6J	μg/L	1.3	5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	0.12J	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	3.6J	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	7.7	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926009

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River TVA discharge point

Sampler Project Name: TVA Ash Spill

Project Site No.:

5A

Station No.:

Date/Time Collected:

KingAshOutF2

Sampler's Name:

09/29/2009 11:15

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced: **Priority Date:**

TDEC-WPC

Date/Time Received:

09/29/2009

13:21

Received By:

TEST: Mercury

ANALYTE

Mercury

E McCrary

MET	THOD: EPA 24	5.1			
RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
U	μg/L	0.029	0.2	A Bass	10/5/2009

Field Determinations

Dissolved Oxygen: 8.84

Chlorine, residual:

Conductivity:

Temperature:

pH:

Other:

Flow:

7.32

69

21.43

pH Units

uMHO

mg/L

CFS

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926010

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Field Determinations

Dissolved Oxygen: 7.72

Conductivity:

Temperature:

7.44

257

18.17

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

Sampler Project Name: TVA Ash Spill

Project Site No.:

Station No.: CLINC004.5RO

Date/Time Collected:

11:30 09/29/2009

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO: Sampling Agency: Knoxville TDEC-WPC

Billing Code: Send Report To: Agency Invoiced: 327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

TEST: Digestion Metals	METHOD: EPA 200.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Digestion Metals	09/30/2009				M Pattanayek	9/30/2009	

TEST: ICP	METHOD: EPA 200.7							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Iron	180	μg/L	2.9	10	A Wilson	10/5/2009		

TEST: ICP-MS	MET	METHOD: EPA 200.8				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Aluminum	170	μg/L	6.4	10	M Pattanayek	10/1/2009
Antimony	U	μg/L	0.33	1	M Pattanayek	10/1/2009
Arsenic	U	μg/L	0.93	5	M Pattanayek	10/1/2009
Barium	36	μg/L	2.5	5	M Pattanayek	10/1/2009
Beryllium	U	μg/L	0.11	1	M Pattanayek	10/1/2009
Cadmium	U	μg/L	0.41	1	M Pattanayek	10/1/2009
Chromium	U	μg/L	2.0	5	M Pattanayek	10/1/2009
Cobalt	0.20J	μg/L	0.04	1	M Pattanayek	10/1/2009
Copper	1.8	μg/L	0.38	1	M Pattanayek	10/1/2009
Lead	0.31J	μg/L	0.10	1	M Pattanayek	10/1/2009
Manganese	41	μg/L	0.42	1	M Pattanayek	10/1/2009
Nickel	1.1	μg/L	0.25	1	M Pattanayek	10/1/2009
Selenium	U	μg/L	1.3	- 5	M Pattanayek	10/1/2009
Silver	U	μg/L	0.03	0.25	M Pattanayek	10/1/2009
Thallium	U	μg/L	0.03	1	M Pattanayek	10/1/2009
Vanadium	U	μg/L	3.4	5	M Pattanayek	10/1/2009
Zinc	3.9J	μg/L	1.9	5	M Pattanayek	10/1/2009

K00002926010

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 4.5 near Sugar Grove Valley R Chlorine, residual:

Project Site No.:

6

Station No.:

CLINC004.5RO

Date/Time Collected:

09/29/2009 11:30

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO: Sampling Agency:

Knoxville TDEC-WPC

Billing Code: Send Report To:

Agency Invoiced:

327.34-20 TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

TEST: Mercury

E McCrary

Field Determinations

Dissolved Oxygen: 7.72

Conductivity:

Temperature:

7.44

257

18.17

pH Units

uMHO

mg/L

CFS

pH:

Other: Flow:

ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Mercury	0.04J	µg/L	0.029	0.2	A Bass	10/5/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit U - Undetected



STATE OF TENNESSEE DEPARTMENT OF HEALTH **ENVIRONMENTAL LABORATORIES**

TDH: Lab Services JRL Lab Services - Jackson Regional Lab Jackson, TN 38301 731-426-0686

TDH: Lab Services KRL Lab Services - Knoxville Regional Lab Knoxville, TN 37920 865-549-5201

TDH: Lab Services NCL Lab Services - Nashville Central Lab Nashville, TN 37243 615-262-6300

Sent To:

Greg Denton

TDEC-WPC

6th Floor, L & C Tower Annex

401 Church Street

Nashville, TN 37243-1534

Michael Atchley TDEC-WPC

Knoxville FO

3711 Middlebrook Pike

Knoxville, TN 37921

K00002926 Lab ID:

Knoxville Regional Laboratory

Sampling Agency: TDEC: Division of Water Pollution Control

Billing Code:

327.34-20

This is to certify that the following results were determined using good laboratory pratices and in accordance with federal or state approved methodologies.

K00002926001

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 12.1

Project Site No.:

Station No.:

EMORY012.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 12:00

County:

Geoff Klein

Sample Matrix:

ROANE - 73 Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC

Send Report To:

327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	. 14	mg/L	3.8	10	S Burchfield	10/5/2009

Field Determinations

Dissolved Oxygen: 9.38

Chlorine, residual:

Conductivity:

Temperature:

7.78

58

18.44

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE		
Calcium hardness	16	mg/L	0.7	1	P Leathers	10/5/2009		

TEST: Residue, Settleable METHOD: SM 2540F							
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009	

TEST: Residue, Suspended	METHOD: SM 2540D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	U	mg/L	10 '	10	S Burchfield	9/30/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926002

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 2.1

Project Site No.:

Station No.:

EMORY002.1RO

Date/Time Collected:

09/29/2009 09:40

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

Billing Code:

327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

54

uMHO

Temperature: 19.49

Dissolved Oxygen: 8.53

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	16	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	 METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	16	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	10	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926003

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2FD

Station No.:

EMORY002.1RO

Date/Time Collected: Sampler's Name:

09/29/2009 09:40

County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

Send Report To:

327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

Dissolved Oxygen: 8.53

pH:

7.59

pH Units

Chlorine, residual:

Conductivity:

54

uMHO

mg/L

Temperature:

19.49

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME		•			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	16	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Calcium hardness	16	mg/L	0.7	1	P Leathers	10/5/2009	

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926004

Project Name:

TVA-Ash Spill

Sample Description:

Emory River mile 2.1

Sampler Project Name: TVA Ash Spill

Project Site No.:

2FB

Station No.:

EMORY002.1RO

Date/Time Collected:

09:40

Sampler's Name:

09/29/2009 Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

Billing Code: Send Report To: 327.34-20

Agency Invoiced:

TDEC-WPC TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

Chlorine, residual:

Conductivity:

Temperature:

Dissolved Oxygen:

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	U	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	ME.					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	U	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Suspended	METHOD: SM 2540D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	U	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926005

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.9 at underwater weir

Project Site No.:

2B

Station No.:

EMORY001.9RO

Date/Time Collected:

09/29/2009 10:17

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency:

TDEC-WPC

Billing Code: Send Report To: 327.34-20 TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.45

pH Units

Chlorine, residual:

Conductivity:

55

uMHO

Temperature: 19.36 **Dissolved Oxygen: 8.59**

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	15	mg/L	3.8	10	S Burchfield	10/5/2009	

TEST: Hardness, Calcium	ME	THOD: SM 350				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	15	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	ME.	THOD: SM 254	0D				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	16	mg/L	10	10	S Burchfield	9/30/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926006

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 1.7

Project Site No.:

3

Station No.:

EMORY001.7RO

Date/Time Collected:

09/29/2009 10:30

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix: EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC

327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

Field Determinations

pH:

7.40

pH Units

Chlorine, residual:

Conductivity:

55

19.34

uMHO

Temperature:

Dissolved Oxygen: 9.22

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Alkalinity	16	mg/L	3.8	10	S Burchfield	10/5/2009	

TEST: Hardness, Calcium	ME.	THOD: SM 350	0-Ca D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	17	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	ME.	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	29	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926007

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Emory River mile 0.1

Project Site No.:

Station No.:

EMORY000.1RO

Date/Time Collected:

09/29/2009 10:45

Sampler's Name: County:

Geoff Klein

Sample Matrix:

ROANE - 73

EFO:

Water

Sampling Agency:

Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009

13:21

Received By:

E McCrary

TEST: Alkalinity, Total	ME	THOD: EPA 31	0.2			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	21	mg/L	3.8	10	S Burchfield	10/5/2009

Field Determinations

Dissolved Oxygen: 8.61

Chlorine, residual:

Conductivity:

Temperature:

7.31

63

19.61

pH Units

uMHO

mg/L

CFS

pH:

Other:

Flow:

TEST: Hardness, Calcium						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	20	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	ME:	THOD: SM 254	0D			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	20	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926008

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River mile 2.3

Project Site No.:

Station No.:

CLINC002.3RO

Date/Time Collected:

09/29/2009 11:00

Sampler's Name:

Geoff Klein

County: Sample Matrix: ROANE - 73

Water

EFO:

Sampling Agency:

Knoxville TDEC-WPC

Billing Code:

327.34-20

Send Report To:

TDEC-WPC

Agency Invoiced:

TDEC-WPC

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

Other:		
Flow:		CFS

7.34

141

19.20

pH Units

uMHO

mg/L

Field Determinations

Dissolved Oxygen: 7.89

Chlorine, residual:

Conductivity:

Temperature:

pH:

TEST: Alkalinity, Total	METHOD: EPA 310.2					
ANALYTE	RESULT	UNITS	MDL.	MQL	ANALYZED BY:	DATE
Total Alkalinity	57	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	47	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	ME	THOD: SM 254	0F			
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	ME	THOD: SM 254				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	16	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926009

Project Name:

TVA-Ash Spill

Sample Description:

Sampler Project Name: TVA Ash Spill

Clinch River TVA discharge point

Project Site No.:

5A

Station No.:

KingAshOutF2

Date/Time Collected:

09/29/2009 11:15

Sampler's Name:

Geoff Klein

County: Sample Matrix: **ROANE - 73**

Water

EFO: Sampling Agency: Knoxville

Billing Code:

TDEC-WPC 327.34-20

Send Report To:

Date/Time Received:

TDEC-WPC TDEC-WPC

Agency Invoiced: **Priority Date:**

09/29/2009 13:21

Received By:

E McCrary

Field Determinations

pH:

7.32

pH Units

Chlorine, residual:

Conductivity:

69

uMHO

Temperature:

21.43

Dissolved Oxygen: 8.84

mg/L

Other:

Flow:

CFS

TEST: Alkalinity, Total	ME.	<u> </u>				
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	18	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	23	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	METHOD: SM 2540F						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009	

TEST: Residue, Suspended	METHOD: SM 2540D				Assessment of the second of th		
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE	
Total Suspended Solids	29	mg/L	10	10	S Burchfield	9/30/2009	

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit

K00002926010

Project Name:

TVA-Ash Spill

Sample Description:

Clinch River mile 4.5 near Sugar Grove Valley F Chlorine, residual:

Project Site No.:

7.44

pH Units

uMHO

mg/L

CFS

Sampler Project Name: TVA Ash Spill

Date/Time Collected:

Conductivity: Temperature:

pH:

Other:

Flow:

Field Determinations

Dissolved Oxygen: 7.72

257

18.17

Station No.:

CLINC004.5RO 09/29/2009 11:30

Sampler's Name:

Geoff Klein

County:

ROANE - 73

Sample Matrix:

Water

EFO:

Knoxville

Sampling Agency: **Billing Code:**

TDEC-WPC 327.34-20

Send Report To: Agency Invoiced:

TDEC-WPC **TDEC-WPC**

Priority Date:

Date/Time Received:

09/29/2009 13:21

Received By:

E McCrary

TEST: Alkalinity, Total METHOD: EPA 310.2						
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Alkalinity	110	mg/L	3.8	10	S Burchfield	10/5/2009

TEST: Hardness, Calcium	METHOD: SM 3500-Ca D					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Calcium hardness	91	mg/L	0.7	1	P Leathers	10/5/2009

TEST: Residue, Settleable	METHOD: SM 2540F					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Settleable Residue	U	ml/L	0.10	0.10	S Burchfield	9/30/2009

TEST: Residue, Suspended	ME:					
ANALYTE	RESULT	UNITS	MDL	MQL	ANALYZED BY:	DATE
Total Suspended Solids	11	mg/L	10	10	S Burchfield	9/30/2009

J - Estimated value between MDL and MQL

MDL - Method Detection Limit

MQL - Method Quantitation Limit